

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANTHONY RICHARD BONACCIO, JOHN MAXWELL COHN,
ALVAR ANTONIO DEAN, AMIR H. FARRAHI,
DAVID J. HATHAWAY, and
SEBASTIAN THEODORE VENTRONE

Appeal No. 2005-0261
Application No. 09/682,473

ON BRIEF

Before JERRY SMITH, FLEMING, and NAPPI, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 8 and 13, which constitute the only claims remaining in the application.

The disclosed invention pertains to a method of driving a clock tree on an integrated circuit and a clock circuit corresponding thereto.

Representative claim 8 is reproduced as follows:

8. A method of driving a clock tree on an integrated circuit (IC), the method comprising the steps of:
 providing an IC having a clock tree;
 distributing a clock signal in the form of a differential sinusoidal signal pair in a portion of the clock tree, the differential sinusoidal signal pair comprising a first sinusoidal signal and a second sinusoidal signal; and
 generating a local clock signal from the differential pair by employing both the first sinusoidal signal and the second sinusoidal signal to form the local clock signal.

The examiner relies on the following references:

| | | |
|------------------------------|-----------|--------------|
| Matsumoto et al. (Matsumoto) | 5,448,188 | Sep. 5, 1995 |
| Wissell et al. (Wissell) | 6,184,736 | Feb. 6, 2001 |

Claims 8 and 13 stand rejected under 35 U.S.C. § 103(a). As evidence of obviousness the examiner offers Wissell in view of Matsumoto.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into

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consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 8 and 13. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434,

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1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR § 41.37(c)(1)(vii)(2004)].

The examiner cites Wissell as essentially teaching the claimed invention except that Wissell does not disclose the

receiver circuit to output a local clock signal as claimed. The examiner cites Matsumoto as teaching a receiver circuit to output a local clock signal by generating a differential sinusoidal signal pair as claimed. The examiner finds that it would have been obvious to the artisan to incorporate the teachings of Matsumoto into that of Wissell [answer, pages 3-4].

Appellants argue that their specification defines a "differential sinusoidal signal pair" as a pair of sinusoidal waveforms that are substantially 180 degrees out of phase with each other, whereas the signals taught by Wissell are quadrature related and differ by only 90 degrees. Appellants also argue that Matsumoto has nothing to do with generating a clock signal. Appellants argue that the only motivation to combine Wissell with Matsumoto in the manner proposed by the examiner is appellants' own specification. Finally, appellants argue that the functions of the Wissell apparatus would be destroyed if the apparatus were modified as suggested by the examiner [brief, pages 5-9].

The examiner responds that any pair of signals having significant non-overlapped portions can be considered as being "differential." The examiner argues, therefore, that a pair of differential sinusoidal signals do not have to be 180 degrees apart. The examiner cites a patent to Rabii to support this

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position. The examiner also responds that the signal Vout of Matsumoto can be interpreted as a clock signal. The examiner cites a patent to Tran to support this position [answer, pages 4-6].

Appellants respond that the claimed differential sinusoidal signal pair must be interpreted in the manner in which it is defined in the specification. Appellants also respond that the examiner pointed to no teaching or motivation in Wissell or in Matsumoto for combining their respective teachings. Appellants assert that the examiner's position is based on nothing more than broad and conclusory statements [reply brief, pages 1-7].

We will not sustain the examiner's rejection of claims 8 and 13 for essentially the reasons argued by appellants in the briefs. The general rule that terms in a claim are given their broadest reasonable interpretation during prosecution is not applicable when the terms have been given a specific definition in the specification. As noted by appellants, the differential sinusoidal signal pair has been defined in the specification as applying to signals which differ by 180 degrees. Therefore, the quadrature related signals of Wissell fail to teach the claimed signal pair. We also agree with appellants that Matsumoto has nothing to do with generating a clock signal so that there is no

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reason why the artisan would have turned to Matsumoto to modify the clock signals of Wissell. Finally, Wissell specifically discloses the generation of clock signals which are quadrature related, yet the examiner proposes to modify Wissell so that the clock signals are 180 degrees out of phase instead of 90 degrees out of phase. The examiner has offered no logical basis for changing this key feature of the Wissell clock signal generator.

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In summary, we have not sustained the examiner's rejection of the claims on appeal. Therefore, the decision of the examiner rejecting claims 8 and 13 is reversed.

REVERSED

Gerry Smith
JERRY SMITH

JERRY SMITH
Administrative Patent Judge

Joseph F. Russo
JOSEPH F. RUG

JOSEPH F. RUGGIERO
Administrative Patent Judge

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